

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of claims:

Claim 1 (previously presented): A speech synthesizing method comprising:  
an extraction step of extracting a plurality of small speech segments from a speech waveform;

a prosody control step of processing the plurality of small speech segments to control prosody of the speech waveform while limiting processing of prosody control for a selected small speech segment of the plurality of small speech segments; and

a synthesizing step of obtaining synthesized speech by using the speech waveform for which prosody control is performed in the prosody control step.

Claim 2 (previously presented): The method according to claim 1, wherein  
the method further comprises an adding step of adding limitation information for inhibiting execution of predetermined processing for the selected small speech segment, and  
in the prosody control step, execution of the predetermined processing for a small speech segment to which the limitation information is added is inhibited in executing the prosody control.

Claim 3 (original): The method according to claim 2, wherein  
the predetermined processing includes deletion of a small speech segment, and  
in the prosody control step, deletion of the small speech segment to which the limitation information is added is inhibited when reduction of an utterance time of synthesized speech is performed as the prosody control.

Claim 4 (original): The method according to claim 2, wherein

the predetermined processing includes repetition of a small speech segment, and  
in the prosody control step, repetition of a small speech segment to which the  
limitation information is added is inhibited when prolongation of a time of synthesized speech is  
performed as the prosody control.

Claim 5 (original): The method according to claim 2, wherein

the predetermined processing includes a change in an interval of a small speech  
segment, and

in the prosody control step, a change in an interval of a small speech segment to  
which the limitation information is added is inhibited when making a change in a fundamental  
frequency of synthesized speech as the prosody control.

Claim 6 (previously presented): The method according to claim 1, wherein

a storage unit in which a plurality of window functions arranged along a time axis  
and limitation information corresponding to at least one of the window functions are stored is  
used,

in the extraction step, small speech segments are extracted from a speech  
waveform by using the plurality of window functions, and

in the prosody control step, when limitation information is made to correspond to  
a window function, a small speech segment extracted by using the window function is selected  
and the limitation is imposed on the small speech segment on the basis of the limitation  
information.

Claim 7 (original): The method according to claim 2, wherein in the adding step,  
the limitation information is added to a small speech segment corresponding to a specific  
position on a speech waveform.

Claim 8 (original): The method according to claim 7, wherein the specific position includes a boundary between a voiced sound portion and an unvoiced sound portion.

Claim 9 (original): The method according to claim 7, wherein the specific position includes a phoneme boundary.

Claim 10 (original): The method according to claim 7, wherein the specific position is a predetermined range including a plosive, and the predetermined range includes a plurality of small speech segments.

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Claim 11 (previously presented): A speech synthesizing apparatus comprising:  
an extraction unit configured to extract a plurality of small speech segments from a speech waveform;

a prosody control unit configured to process the plurality of small speech segments to control prosody of the speech waveform while limiting processing of prosody control for a selected small speech segment of the plurality of small speech segments; and

a synthesizing unit configured to obtain synthesized speech by using the speech waveform for which prosody control is performed by said prosody control unit.

Claim 12 (previously presented): The apparatus according to claim 11, wherein the apparatus further comprises an adding unit configured to add limitation information for inhibiting execution of predetermined processing for the selected small speech segment, and

said prosody control unit inhibits execution of the predetermined processing for a small speech segment to which the limitation information is added in executing the prosody control.

Claim 13 (previously presented): The apparatus according to claim 12, wherein the predetermined processing includes deletion of a small speech segment, and

said prosody control unit inhibits deletion of the small speech segment to which the limitation information is added when reduction of an utterance time of synthesized speech is performed as the prosody control.

Claim 14 (previously presented): The apparatus according to claim 12, wherein the predetermined processing includes repetition of a small speech segment, and

said prosody control unit inhibits repetition of a small speech segment to which the limitation information is added when prolongation of a time of synthesized speech is performed as the prosody control.

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Claim 15 (previously presented): The apparatus according to claim 12, wherein the predetermined processing includes a change in an interval of a small speech segment, and

said prosody control unit inhibits a change in an interval of a small speech segment to which the limitation information is added when making a change in a fundamental frequency of synthesized speech as the prosody control.

Claim 16 (previously presented): The apparatus according to claim 11, further comprising a storage unit in which a plurality of window functions arranged along a time axis and limitation information corresponding to at least one of the window functions are stored,

wherein said extraction unit extracts small speech segments from a speech waveform by using the plurality of window functions, and

said prosody control unit, when limitation information is made to correspond to a window function, selects a small speech segment extracted by using the window function and imposes the limitation on the basis of the limitation information.

Claim 17 (previously presented): The apparatus according to claim 12, wherein said adding unit adds the limitation information to a small speech segment corresponding to a specific position on a speech waveform.

Claim 18 (original): The apparatus according to claim 17, wherein the specific position includes a boundary between a voiced sound portion and an unvoiced sound portion.

Claim 19 (original): The apparatus according to claim 17, wherein the specific position includes a phoneme boundary.

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Claim 20 (original): The apparatus according to claim 17, wherein the specific position is a predetermined range including a plosive, and the predetermined range includes a plurality of small speech segments.

Claim 21 (original): A control program for making a computer implement the speech synthesizing method defined in claim 1.

Claim 22 (original): A storage medium storing a control program for making a computer implement the speech synthesizing method defined in claim 1.

Claim 23 (previously presented): A speech synthesizing method comprising:  
an extraction step of extracting a plurality of small speech segments from a speech waveform;

an adding step of adding limitation information for inhibiting execution of predetermined processing for the selected small speech segments,

a prosody control step of processing the plurality of small speech segments to control prosody of the speech waveform while inhibiting execution of the predetermined processing for a small speech segment to which the limitation information is added; and

a synthesizing step of obtaining synthesized speech by using the speech waveform for which prosody control is performed in the prosody control step.

Claim 24 (previously presented): A speech synthesizing method comprising:

a step of providing a storage unit in which a plurality of window functions arranged along a time axis and limitation information corresponding to at least one of the window functions are stored;

an extraction step of extracting a plurality of small speech segments from a speech waveform by using the plurality of window functions;

B1 a prosody control step of processing the plurality of small speech segments to control prosody of the speech waveform while limiting processing for selected small speech segment which was extracted by using the window function to which the limitation information corresponds; and

a synthesizing step of obtaining synthesized speech by using the speech waveform for which prosody control is performed in the prosody control step.

Claim 25 (previously presented): A speech synthesizing apparatus comprising:

an extraction unit configured to extract a plurality of small speech segments from a speech waveform;

an adding unit configured to add limitation information for inhibiting execution of predetermined processing to a selected small speech segment of the plurality of small speech segments,

a prosody control unit configured to process the plurality of small speech segments to control prosody of the speech waveform while inhibiting execution of the predetermined processing for a small speech segment to which the limitation information is added; and

a synthesizing unit configured to obtain synthesized speech by using the speech waveform for which prosody control is performed by said prosody control unit.

Claim 26 (previously presented): A speech synthesizing apparatus comprising:

a storage unit in which a plurality of window functions arranged along a time axis and limitation information corresponding to at least one of the window functions are stored;

an extraction unit configured to extract a plurality of small speech segments from a speech waveform;

a prosody control unit configured to process the plurality of small speech segments to control prosody of the speech waveform while limiting processing of prosody control for a selected small speech segment of the plurality of small speech segments; and

a synthesizing unit configured to obtain synthesized speech by using the speech waveform for which prosody control is performed by said prosody control unit.

Claim 27 (new): A speech synthesizing method comprising:

an extraction step of extracting a plurality of small speech segments from a speech waveform;

a prosody control step of processing the plurality of small speech segments to control prosody of the speech waveform while inhibiting execution of the predetermined processing for a small speech segment based on the limitation information corresponding to the speech waveform; and

a synthesizing step of obtaining synthesized speech by using the speech waveform for which prosody control is performed in the prosody control step.

Claim 28 (new): A speech synthesizing apparatus comprising:

an extraction unit configured to extract a plurality of small speech segments from a speech waveform;

a prosody control unit configured to process the plurality of small speech segments to control prosody of the speech waveform while inhibiting execution of the

predetermined processing for a small speech segment based on the limitation information corresponding to the speech waveform; and

a synthesizing unit configured to obtain synthesized speech by using the speech waveform for which prosody control is performed by said prosody control unit.

Claim 29 (new): The method according to claim 1, wherein the limited processing of prosody control includes deletion of the selected small speech segment.

Claim 30 (new): The method according to claim 1, wherein the limited processing of prosody control includes repetition of the selected small speech segment.

Claim 31 (new): The method according to claim 1, wherein the limited processing of prosody control includes a change in an interval of the selected small speech segment.

Claim 32 (new): The apparatus according to claim 11, wherein the limited processing of prosody control includes deletion of the selected small speech segment.

Claim 33 (new): The apparatus according to claim 11, wherein the limited processing of prosody control includes repetition of the selected small speech segment.

Claim 34 (new): The apparatus according to claim 11, wherein the limited processing of prosody control includes a change in an interval of the selected small speech segment.

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